Database Design Document: Food Order App

Introduction

The Food Order App database is designed to support a comprehensive food ordering system. This system involves the management of users, user sessions, categories, cuisines, restaurants, food items, menus, shopping carts, orders, and order items. The database structure is defined by 13 tables, each serving a distinct purpose in facilitating efficient data storage and retrieval.

Tables

1. **User Table**
    - **Columns:**
        - **id** (Primary Key)
        - **userName**
        - **fullName**
        - **emailId**
        - **phoneNo**
        - **password**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Stores information about registered users, including credentials and contact details.
2. **User Session Table**
    - **Columns:**
        - **id** (Primary Key)
        - **userId** (Foreign Key referencing User Table)
        - **sessionToken**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Manages user sessions, allowing users to interact with the application securely.
3. **Category Table**
    - **Columns:**
        - **id** (Primary Key)
        - **name**
        - **description**
        - **image**

        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Defines food item categories, including their name, description, and image.
4. **Cuisine Table**
    - **Columns:**
        - **id** (Primary Key)
        - **name**
        - **description**
        - **image**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Stores information about different cuisines, aiding in categorizing food items.
5. **Restaurant Table**
    - **Columns:**
        - **id** (Primary Key)
        - **name**
        - **address**
        - **contact**
        - **image**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Manages details about restaurants, including their location and contact information.
6. **Food Item Table**
    - **Columns:**
        - **id** (Primary Key)
        - **name**
        - **description**
        - **image**
        - **categoryId** (Foreign Key referencing Category Table)
        - **cuisineId** (Foreign Key referencing Cuisine Table)
        - **isVeg**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Represents individual food items, associating them with specific categories and cuisines.
7. **Menu Table**
    - **Columns:**

        - **id** (Primary Key)
        - **restaurantId** (Foreign Key referencing Restaurant Table)
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Organizes food items into menus linked to specific restaurants.
8. **Menu Items Table**
    - **Columns:**
        - **id** (Primary Key)
        - **menuId** (Foreign Key referencing Menu Table)
        - **fooditemId** (Foreign Key referencing Food Item Table)
        - **fooditemPrice**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Associates food items with menus and stores their prices within those menus.
9. **Cart Table**
    - **Columns:**
        - **id** (Primary Key)
        - **userId** (Foreign Key referencing User Table)
        - **restaurantId** (Foreign Key referencing Restaurant Table)
        - **orderTotalPrice**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Manages shopping carts created by users, tracking the total price of items in the cart.
10. **Cart Items Table**
    - **Columns:**
        - **id** (Primary Key)
        - **cartId** (Foreign Key referencing Cart Table)
        - **fooditemId** (Foreign Key referencing Food Item Table)
        - **fooditemPrice**
        - **unitsInCart**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Records the food items added to each cart, along with their prices and quantities.
11. **Shipping Details Table**
    - **Columns:**
        - **id** (Primary Key)
        - **shippingAddress**

        - **emailId**
        - **phoneNo**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Stores information about shipping details for processing orders.
12. **Order Table**
    - **Columns:**
        - **id** (Primary Key)
        - **userId** (Foreign Key referencing User Table)
        - **restaurantId** (Foreign Key referencing Restaurant Table)
        - **orderTotalPrice**
        - **shippingDetailsId** (Foreign Key referencing Shipping Details Table)
        - **orderStatus**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Tracks orders, including user details, restaurant information, order total, and current status.
13. **Order Items Table**
    - **Columns:**
        - **id** (Primary Key)
        - **orderId** (Foreign Key referencing Order Table)
        - **fooditemId** (Foreign Key referencing Food Item Table)
        - **fooditemPrice**
        - **unitsPurchased**
        - **isActive**
        - **createdTs**
        - **updatedTs**
    - **Purpose:** Records individual food items associated with specific orders, along with their prices and quantities.

Note : The columns **isActive**, **createdTs** and **updatedTs** should have default value set while creating the table such that **isActive** should have default value set to 1, **createdTs** and **updatedTs** should have default values set to current timestamp.

Relationships

- User and User Session: One-to-Many (A user can have multiple active sessions)
- Food Item, Category, and Cuisine: Each Food Item belongs to one Category and one Cuisine
- Restaurant and Menu: One-to-One (A restaurant can have one menu, and a menu is associated with a specific restaurant.)
- Menu and Menu Items: One-to-Many (A menu can have multiple items)
- Cart and Cart Items: One-to-Many (A cart can have multiple items)
- User and Cart: One-to-One (A user can have at most one active shopping cart at a time)
- User, Order, and Shipping Details: One-to-Many (A user can place multiple orders with different shipping details)
- Order and Order Items: One-to-Many (An order can have multiple items)

Conclusion

The database structure is designed to efficiently manage user data, food items, restaurant details, shopping carts, orders, and their related entities. The relationships between tables allow for a structured and organized representation of the food ordering system. The use of foreign keys helps maintain data integrity and ensures that data is accurately and consistently represented throughout the database. The tables collectively form a robust foundation for the Food Order App, supporting its functionalities seamlessly.